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
APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/764,181	01/23/2004	Sachin Navin Chheda	200314086-1	7860
22879 7590 01/25/2008 HEWLETT PACKARD COMPANY P O BOX 272400, 3404 E. HARMONY ROAD INTELLECTUAL PROPERTY ADMINISTRATION FORT COLLINS, CO 80527-2400			EXAMINER HAMO, PATRICK	
			ART UNIT 3746	PAPER NUMBER
			NOTIFICATION DATE 01/25/2008	DELIVERY MODE ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No. 10/764,181	Applicant(s)  CHHEDA ET AL.	
	Examiner Patrick Hamo	Art Unit 3746	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 October 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 March 2007 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

In view of the appeal brief filed on October 16, 2007, PROSECUTION IS
HEREBY REOPENED. New grounds of rejection are set forth below.

To avoid abandonment of the application, appellant must exercise one of the
following two options:

(1) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply
under 37 CFR 1.113 (if this Office action is final); or,

(2) initiate a new appeal by filing a notice of appeal under 37 CFR 41.31 followed
by an appeal brief under 37 CFR 41.37. The previously paid notice of appeal fee and
appeal brief fee can be applied to the new appeal. If, however, the appeal fees set forth
in 37 CFR 41.20 have been increased since they were previously paid, then appellant
must pay the difference between the increased fees and the amount previously paid.

A Supervisory Patent Examiner (SPE) has approved of reopening prosecution by
signing below:

DEVON G. ARNOLD
PATENT EXAMINER
Devon Arnold
1/18/08

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 3, 18 and 19 are rejected under 35 U.S.C. 102(b) as being anticipated by Winick et al., 5,793,608.

Winick discloses a fan cooling system for a computer including two fans 46, each coupled with a thermistor control system that senses the air temperature and regulates and varies the speed of the fans via the voltages of their motors (col. 2, ll. 5-18), the fans creating air flows through the chassis of a computer, the chassis including plenum 24 that acts as a duct in that it directs the flow to heat sinks 38, 39, 43 to cool a chip and other electronic devices within the chassis. In regards to claims 18 and 19, Winick discloses that power supply fans are controlled by a thermistor, which senses ambient air temperature, thereby increasing the speed of the fan by regulating the voltage of its motor (col. 2, ll. 10-17). Because a thermistor functions by varying a resistance in response to temperature, it is inherent that the thermistors had to be chosen based on a reference temperature or otherwise calibrated by a technician to respond to specific air temperatures with corresponding signals to the motors. Therefore, it is a property of thermistors that a pre-defined parameter has been selected and that the temperature being measured by the thermistor is in effect being compared to this reference

temperature. Furthermore, the ambient temperature is a performance metric of the fan in that, if the temperature of the chassis is acceptable, than the fans are adequately serving their purpose, or performing well.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Winick in view of Bhatia, 6,299,408.

Winick, as discussed above, discloses all of the limitations substantially as claimed except that the first motor and the second motor are removably coupleable with the fan cooling system.

However, Bhatia teaches a computer cooling fan where the blade portion of the fan 710 (see fig. 8) is separate from the motor 210 and driven via the motor by flexible shaft 705 so that there is a variety of options in placement of the motor (col. 6, ll. 12-20) while decreasing the overall size that comes with an integral blade/motor fan (col. 1, ll. 15-65). It would have been obvious to one of ordinary skill in the art at the time of the invention to have modified the computer cooling fans of Winick with the separate blade and motor fans of Bhatia in order to decrease the space taken up by the fans and to

increase options of where to place the motors. It would further have been obvious to one of ordinary skill that the motor, shaft and fan all being separate pieces, the motor would now be removably coupleable, in case of motor wear or the like.

Claims 1-9, 11-16 and 18-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kimura, 5,414,591 in view of Cipolla, 6,791,836.

Kimura discloses a storage system for electronics using a plurality of blower fans 13 to pass cooling air through a duct 2 (see fig. 10) in a plurality of disk units 31a and conveying the flow to heat sinks 18 positioned on the electronic components such as circuit boards 32. The fans are operated at a first operating speed (col. 5, ll. 23-26), and a plurality of current monitoring devices 21 determine the amount of current used by each respective motor driving each fan (col. 14, ll. 49-50).

However, Kimura does not disclose the following taught by Cipolla: first fan 104 coupled with first motor 103, a second fan 104 coupled with a second motor 103, a control system (148, 136, 116, 22, 114, and 120) coupled with both motors 103 and 104, first and second motors of variable speed (col. 4, ll. 59-64), a motor performance monitoring system (116 and 114) determining a performance metric 114 for each motor, first and second tachometers 114 determining the rotational speed of the first and second motors respectively (col. 4, ll. 44-48), a comparator 116 for comparing measured performance metrics of each motor with pre-defined parameters (col. 5, ll. 1-12), a power control subsystem 120, a controller 116, and controller 116 is coupled with

power control subsystem 120 and generates a command to power control subsystem 120 in response to a signal from the comparator 116 (col., I1.59-64 and col. 5, II. 1-12).

It would have been obvious to one of ordinary skill in the art to have substituted the more robustly-controlled active control fans of Cipolla for the nominal, relatively primitive passive controlled fans of Kimura in order to better control the flow of cooling air in response to the requirements of the electronic devices being stored in the storage system of Kimura.

Regarding the limitations that the first motor and second motor are removably couplable with said fan cooling system and disengaging the first fan motor, making elements of an apparatus separable fails to patentably distinguish this invention over the prior art. (See MPEP § 2144.04.V.C). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to make the motor removable from the fan cooling system.

Regarding the limitation that the controller causes said power control subsystem to dynamically alter the operating speed of said second fan when said performance metric of said first motor exceeds said pre-defined parameter, Kimura teaches that the operating speed of a second fan is altered when the first motor exceeds a performance metric, where the performance metric is current (col. 15, I1.23 -53). Cipolla teaches that controller 116 causes power control subsystem 120 to dynamically alter the operating speed of one or more fans based on pre-defined parameters (col. 4, II. 59-64 and col. 5, I1.1-12). Therefore, it would have been obvious to one of ordinary skill in the art at the

time of the invention to modify Kimura in view of Cipolla to detect another operational condition of the fan.

Claims 10 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over the references as applied in claims 1, 4, and 11 above, and further in view of Olarig 2003/0112600.

The references as applied above teach all of the limitations substantially as claimed except for the state machine (page 2, paragraph 26, II.3-5) taught by Olarig. Olarig teaches that a state machine and a controller are essentially interchangeable in the art. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the controlled fan flow of the references as applied above in view of Olarig in order to substitute a controller with a state machine (Olarig, page 2, paragraphs 23 - 26).

Response to Arguments

Applicant's arguments with respect to claims 1-22 have been considered but are moot in view of the new ground(s) of rejection.

However, the examiner recognizes that the applicant may believe that arguments directed towards the modification of Cipolla with Kimura remain at issue with the modification of Kimura with Cipolla, as it is the combination of the two that the applicant states in the appeal brief as failing to satisfy the requirements of a *prima facie* case of obviousness. In response, the examiner would like to point out that improving a cooling system for electronic components by substituting more technically advanced active

controls for passive cooling, as presented in this Office action, is in fact a separate issue than that which was presented in the prior Office actions, and therefore the arguments are in fact moot.

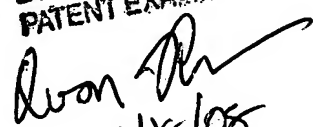
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Patrick Hamo whose telephone number is 571-272-3492. The examiner can normally be reached on M-F 8:30-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Devon Kramer can be reached on 571-272-7118. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


PH

DEVON C. KRAMER
PATENT EXAMINER

1/16/08